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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/781,849

02/20/2004

Patrick Bourges

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EXAMINER

SINGH, PREM C

ART UNIT

PAPER NUMBER

1764

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/781,849

Applicant(s)

BOURGES ET AL.

Examiner

Prem C. Singh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 February 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 02/20/2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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4. Claims 1, 2, and 4-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Munro et al (US Patent 4,197,184).

5. With respect to claim 1, Munro discloses a hydrotreating/hydrocracking process.

The process comprises:

- Gas oil feed with nitrogenous compounds as elemental nitrogen of about 1,250 ppm, mixed with recycled hydrogen goes to the hydrotreating reaction zone catalyst bed at a temperature of about 675°F (357.2°C) (See column 7, lines 43-68; column 8, lines 1-7);
- Fractionation facility (18) serves to separate the normally liquid product effluent into a plurality of desired product streams (Column 8, lines 57-59);
- The heavier material is admixed with recycled hydrogen, heated to a temperature of about 650°F (343.3°C) and introduced to hydrocracking catalyst bed (See column 9, lines 15-25). Catalyst may include at least one Group VIII noble metal component and the carrier material may be either amorphous or zeolitic. Noble metals include platinum and palladium (See column 6, lines 34-46).

It is to be noted that $T1 - T2 = 675^{\circ}\text{F} - 650^{\circ}\text{F} = 25^{\circ}\text{F}$.

Munro does not specifically mention using two metals simultaneously but the invention does mention use of at least one Group VIII noble metal component. Thus, it would have been obvious to one skilled in the art at the time the invention was made to

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modify Munro invention and use platinum and palladium both to make the hydrocracking process more efficient.

6. Claim 2 has all the limitations of claim 1 and discussed before showing T1-T2 = 25°F.

7. With respect to claim 4, Munro discloses that temperature T1 ranges from 315.6°C to about 482.2°C (See column 6, lines 7-8).

8. With respect to claim 5, Munro discloses that 645°F plus (340.5°C plus) material from the separation unit is taken to the hydrocracking facility (See column 9, lines 15-25).

9. With respect to claims 6 and 7, Munro discloses the feed to the hydrofining stage with 2% sulfur and 1250 ppm nitrogen (See column 7, lines 56-59). Munro further discloses, "The total reaction product effluent in line (13) or line (15) may be treated in any suitable, well known manner for the removal of ammonia and hydrogen sulfide." (Column 8, lines 37-39).

Although Munro does not specifically mention the composition of nitrogen and sulfur after hydrofining stage, and also does not mention about ammonia and hydrogen sulfide at the hydrocracking stage, it would have been obvious to one skilled in the art at the time the invention was made to modify Munro invention and mention the

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concentrations of sulfur, nitrogen, hydrogen sulfide and ammonia for proper removal of these contaminants.

10. With respect to claim 8, Munro discloses, "Good results have been obtained with amorphous silica-alumina." (Column 6, lines 48-50).

11. With respect to claim 11, Munro discloses hydrocracking temperature to be 343.3°C (See column 9, line 25).

12. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Munro et al (US Patent 4,197,184) in view of Harle et al (US Patent 6,436,280).

Munro does not disclose using a dopant in the hydrorefining catalyst.

Harle discloses a catalyst comprising at least one catalytic metal or a compound from Group VI B and/or optionally at least one catalytic metal or compound from Group VIII. The catalyst also comprises at least one dopant selected from the group formed by boron, phosphorus, and silicon (See abstract). The catalyst can be used in all processes of hydrorefining and hydroconverting hydrocarbon feeds, such as hydrogenation, hydrodenitrogenation, hydrodeoxygenation, hydrocracking, hydrodesulfurization..... (See column 10, lines 42-50). Harle also adds, "This dopant produces better performances for refining." (Column 3, lines 20-25). Nitrogen content of the feed was 2075 ppm and 5800 ppm (See column 14, line 26).

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Since Munro and Harle inventions are using hydrorefining and hydrocracking processes using similar feeds, similar catalysts under similar operating conditions, it would have been obvious to one skilled in the art at the time the invention was made to modify Munro invention and use a dopant in the hydrorefining catalyst as suggested by Harle for a better performance of the hydrorefining catalyst.

Double Patenting

13. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

14. Claims 1 and 9 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 19-21, 23, 28, and 29 of copending Application No. 10/696,561. Although the conflicting claims are

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not identical, they are not patentably distinct from each other because claims 1, 19-21, 23, 28, and 29 of copending Application No. 10/696,561 are drawn to a process of hydrorefining followed by hydrocracking using a catalyst with silico-aluminum substrates similar to the Applicant's claims. The only difference is that the '561 claims include standard activity tests for the hydrorefining and hydrocracking catalysts which is not needed for the catalysts to perform satisfactorily. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify claims of '561 Application and not include the activity tests for the catalyst to save time and make the process less expensive. See *Ex parte Wu*, 10 USPQ 2031 (Bd. Pat. App. & Inter. 1989). Also see *In re Kuhle*, 526 F.2d 553, 188 USPQ 7 (CCPA 1975).

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

15. Claim 10 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 17, 18, and 20-24 of U.S. Patent No. 6,733,657. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of '657 patent are drawn to a process of hydrotreating followed by hydrocracking using a catalyst with hydro-dehydrogenating component comprising silica-alumina substrate similar to the Applicant's claims. The only difference is that the '657 claims do not specifically mention measurement of pore volume by mercury porosimetry. Also, the claims of '657 patent do not specifically mention the range of diameter of macropores.

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Since measurement of pore volume can be done by any standard technique, including mercury porosimetry, it would have been obvious to one skilled in the art at the time the invention was made to modify claims 1, 17, 18, and 20-24 of '657 patent and measure the pore volume by mercury porosimetry for proper characterization of the catalyst. Similarly, because the claims of '657 patent discloses macropores to be greater than 500 Å, it would have been obvious to one skilled in the art at the time the invention was made to modify claims 1, 17, 18, and 20-24 of '657 patent and include a proper range, including the claimed range of 1000 to 10,000 Å for proper choice of the catalyst.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Pollitzer, US Patent 3,592,759.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Prem C. Singh whose telephone number is 571-272-6381. The examiner can normally be reached on MF 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000

PS /012607



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